

A review of the status of Collared Laughingthrush *Garrulax yersini* and Grey-crowned Crocias *Crocias langbianis*

SIMON P. MAHOOD & JONATHAN C. EAMES

A survey of the globally Endangered Collared Laughingthrush *Garrulax yersini* and Grey-crowned Crocias *Crocias langbianis* was conducted in May 2009 on the Da Lat Plateau, southern Vietnam. Collared Laughingthrush proved to be common throughout broadleaved evergreen forest habitat within its limited altitudinal distribution while the distribution of Grey-crowned Crocias was extended to the south. These results are discussed in the context of the conservation status of these species and it is recommended that both species are retained as Endangered.

INTRODUCTION

For many species distributed in the tropics, a paucity of basic abundance and distribution data makes the accurate assessment of threat status difficult. There is still much to be learned about the status and distribution of relatively well-known taxa, such as birds, in countries like Vietnam. Vietnam supports over 800 resident bird species (Robson 2008) and, owing to its complex topography, up to six areas which are designated (or would qualify) as Endemic Bird Areas (Stattersfield *et al.* 1998). In recent years the discovery of new species and the revision of species limits has dramatically increased the number of species endemic to Vietnam (or nearly so), revealed a more detailed pattern of endemism, and reinforced the conservation importance of the country (Eames *et al.* 1999a, Eames *et al.* 1999b, Eames & Eames 2001, Eames 2002, Collar 2006).

The Da Lat Plateau Endemic Bird Area (EBA 145) is located on an isolated massif in southern Vietnam beyond the southern tip of the Annamite mountains (BirdLife International 2011). The natural vegetation cover is broadleaved evergreen forest with emergent *Pinus*. The Da Lat Plateau Endemic Bird Area supports more restricted range bird species than any other EBA in mainland South-East Asia. Recent taxonomic revisions have reinforced the status of the Da Lat Plateau EBA as the most important centre of avian endemism in Vietnam. Following taxonomy used in the *BirdLife checklist* version 4, it supports at least 14 species that qualify as restricted-range species, of which five occur only in this EBA, namely Orange-breasted Laughingthrush *Garrulax annamensis*, Collared Laughingthrush *Garrulax yersini*, Grey-crowned Crocias *Crocias langbianis*, Black-headed Parrotbill *Paradoxornis margaritae* and Vietnam Greenfinch *Carduelis monguilloti*. Approximately 40 subspecies of bird are also restricted in range to this EBA (Eames 1995). Of the five species that are restricted to the Da Lat Plateau EBA two are considered globally threatened: Collared Laughingthrush and Grey-crowned Crocias. Both are considered Endangered (BirdLife International 2011).

Accurately understanding the distribution and status of species is of utmost importance in assessing their threat status. In Vietnam, there have been few recent field surveys aimed at better understanding species distribution and abundance. In this study we conducted surveys to gather data on the abundance and distribution of the two Endangered passerines that are endemic to the Da Lat Plateau: Collared Laughingthrush and Grey-crowned Crocias.

Collared Laughingthrush *Garrulax yersini*

Collared Laughingthrush is part of a species complex that also includes Chestnut-crowned *G. erythrocephalus*, Assam *G. chrysopterus*, Silver-eared *G. melanostigma*, Golden-winged *G. ngoclinbensis* and Malayan Laughingthrush *G. peninsulae*. Its habitat, habits and vocalisations are similar to those species,

although unlike most of them, it is regarded by some as localised; Robson (2008) describes it as 'locally common'. Collared Laughingthrush is an understorey bird restricted to high-elevation broadleaved evergreen forest (>1,500 m elevation) on the Da Lat Plateau. Its extent of occurrence (EOO) is only 720 km² (BirdLife International 2011) and it is known from only five sites: Chu Yang Sin National Park in Dak Lak province, the contiguous Bi Duop Nui Ba National Park and Dam Rong State Forest Enterprise (part of which lies within Cong Troi Important Bird Area), Mt Lang Bian in Dan Kia Suoi Vang Tourism Area, and Nam Ban Police Forest Management Board (part of Tuyen Lam Important Bird Area) (Tordoff 2002). Within these areas populations are fragmented owing to the patchy distribution of suitable habitat, which is often embedded in a matrix of unsuitable pine *Pinus* forest. Collared Laughingthrush lives in pairs or small parties that forage quietly and unobtrusively in dense understorey and on the forest floor. It is usually detected by vocalisations, which are given infrequently. However, it responds strongly to playback of pre-recorded vocalisations.

Grey-crowned Crocias *Crocias langbianis*

The Grey-crowned Crocias is known from only four specimens collected at two localities. For a passerine with a continental distribution this paucity of specimen records renders it most unusual. After much intensive effort it was rediscovered in 1994, in Chu Yang Sin National Park (Eames *et al.* 1995). It has since been found in three parts of Tuyen Lam Important Bird Area, a place known popularly as Ta Nung valley (and near Cam Ly, one of the historical collecting localities) located within Lam Vien Landscape Protection Forest, at Ho Tuyen Lam Tourism Area and in the adjacent Nam Ban Police Forest Management Board (Pilgrim *et al.* 2007), these constituting two discrete areas of the same forest; at this site the populations may be small and the habitat fragmented.

Of the historical collecting localities little is known. At one site, Björkegren's 'Lang Bian peaks', which is presumably Mount Lang Bian in Dan Kia Suoi Vang Tourism Area (Eames & Ericson 1996), no suitable habitat within its altitudinal range remains. The location of the other site is imprecisely known but is thought to be within D'Ran Watershed Protection Forest (formerly known as Don Duong Police Forest Management Board) (Pilgrim *et al.* 2007). There are also recent reports from Bi Doup Nui Ba National Park, including a photograph of an individual of this species purportedly taken there in 2006 by the Vice-Director of the national park, Mr Do Manh Hung (Le Trong Trai pers. comm. 2008). The location at which this photograph was taken has been described variously as 'the slopes of Mount Lang Bian' (Pilgrim *et al.* 2007) and 'in forest adjacent, along and close to road 723 at 1,450 m and 1,600 m elevation' (Do Manh Hung pers. comm. 2009). Both locations would place the record within Bi Doup Nui Ba National Park.



Plate 1. Expansion of coffee cultivation in the altitudinal range of Grey-crowned Crocias within the Da Nhim Watershed Protection Forest. (Jonathan C. Eames)



Plate 2. Habitat of Grey-crowned Crocias in the Da Nhim Watershed Protection Forest. (Jonathan C. Eames)



Plate 3. Hydro-electric dam construction in the Da Nhim Watershed Protection Forest. A male Grey-crowned Crocias could be heard singing from a tree top behind the photographer. (Jonathan C. Eames)



Plate 4. Many parts of the Da Lat Plateau now support only an anthropogenic landscape. Evergreen forest degraded by logging and shifting cultivation can be seen in the far distance. A ridge covered by *Pinus kesiya* plantation in the middle foreground and irrigated rice and market gardening in the foreground. (Jonathan C. Eames)



Plate 5. Road construction within the altitude range of Grey-crowned Crocias in the Da Nhim Watershed Protection Forest. Note the gully erosion and the tipping of soil over the side of the road. Note also the clearance of pine forest for coffee. (Jonathan C. Eames)

The elevational range of Grey-crowned Crocias is poorly understood, because although there are historical records from up to 1,700 m elevation, recent records (excluding those claimed from Bi Doup Nui Ba National Park and the 1994 record from Chu Yang Sin National Park, which was at c.1,615 m) are from a narrow band

between 910 and 1,130 m. It forages in the canopy and mid-storey of broadleaved evergreen forest, sometimes utilising scrub between forest patches, in pairs or small groups, in monospecific and mixed-species flocks.

METHODS

Surveys were undertaken in four Forest Management Units with suitable habitat for the target species located within the Da Lat Plateau EBA, as part of a project to locate and map forest of high conservation value (Mahood *et al.* 2009). We focused on sites where the distribution of the target species was poorly known. The Forest Management Units surveyed were Bi Doup Nui Ba National Park, Da Nhim Watershed Protection Forest, D'Ran Watershed Protection Forest and Don Duong Forest Company. Survey locations are defined as Forest Compartments within Forest Management Units. All of these Forest Management Units receive some level of legal protection from illegal logging and encroachment, although in the case of Forest Companies (state owned logging concessions) and especially Watershed Protection Forests legislation is rarely enforced. Bird surveys were undertaken by three teams consisting of an experienced ornithologist and a relevant member of staff from the



Plate 6. Grey-crowned Crocias in the Don Duong Forest Company at the southern limit of its range. (Jonathan C. Eames)

Forest Management Unit (local guides were also used where required). Surveys were undertaken in the first two weeks of May 2009. Data were collected throughout the day, starting from dawn. If there was moderate or heavy rain, or moderate or strong wind, then the survey was abandoned.

The survey teams actively searched for indicator species on foot, using existing roads and trails. Trails were walked slowly (1–1.5 km/hour). The survey teams concentrated their effort in habitat at elevations believed to be most suitable for target species. The most suitable habitat for Collared Laughingthrush is believed to be broadleaved evergreen forest with dense undergrowth above 1,500 m, and for Grey-crowned Crocias broadleaved evergreen forest at 900–1,200 m, although this species was also searched for in forest above 1,200 m. In suitable habitat, the survey team broadcast prerecorded songs of the target bird species at 100 m intervals and waited at each broadcast station for three minutes afterwards to detect responding birds.

RESULTS

Collared Laughingthrush

Collared Laughingthrush was recorded at 93% (13 of 14) survey locations where broadleaved evergreen forest reached over 1,500 m elevation. Our records in Da Nhim Watershed Protection Forest are the first for that site, and they fill a gap in the species's range between contiguous forest in Bi Doup Nui Ba National Park and Dam Rong State Forest Enterprise.

Grey-crowned Crocias

Grey-crowned Crocias was recorded at 57% (four of seven) survey locations where contiguous forest reached below 1,200 m and 8%

(one of 13) survey locations where forest was only found above 1,200 m. Two sites where it was found were in areas where it was previously unrecorded: pairs were seen at two locations at just over 1,500 m along a dirt road in Forest Compartment 62, Da Nhim Watershed Protection Forest and a further seven pairs were found along a 25 km transect in Forest Compartments 326 and 331, Don Duong Forest Company (Plate 6). We also obtained the first modern records of the species in D'Ran Watershed Protection Forest. Three pairs were located in Forest Compartments 314 and 315 in a mosaic of broadleaved evergreen and coniferous forest. Although the survey team spent four person-days surveying suitable habitat for Grey-crowned Crocias in Bi Doup Nui Ba National Park none was recorded.

DISCUSSION

The survey gathered new data for two globally threatened bird species. These data have allowed us to expand the range of one species (Grey-crowned Crocias) and re-evaluate the abundance of another (Collared Laughingthrush). Based on these data we reassess the global threat status of both of these species and recommend that they be retained as Endangered. Because their altitudinal distributions encompass almost the full elevational range of all of the other restricted-range species that characterise the Da Lat Plateau EBA and because they are reliant on broadleaved evergreen forest, Grey-crowned Crocias and Collared Laughingthrush are effective analogue species for the Da Lat Plateau EBA.

Collared Laughingthrush

Owing to the distribution of suitable habitat we only found this species in Bi Doup Nui Ba National Park and the south-east corner

of the north-west sector of Da Nhim Watershed Protection Forest. However, our records suggest that within its small range Collared Laughingthrush is common wherever suitable habitat is found. The population estimate given in BirdLife International (2011) is precautionarily placed in the band 2,500–10,000 based on the observation that this species is less abundant than Black-hooded Laughingthrush *Garrulax milleti*, which has been estimated to occur at a density of 70 individuals/km² in Chu Yang Sin National Park, where it was recorded on 16 occasions compared to four encounters with Collared Laughingthrush (Hill *et al.* 2001). Unlike Black-hooded Laughingthrush, which occurs in demonstrative flocks that vocalise often, Collared Laughingthrush is usually silent and skulking unless provoked. These two species are therefore quite different in habits and detectability. Pre-recorded vocalisations were not used by Hill *et al.* (2001) to detect birds. We assert that Collared Laughingthrush is more abundant than formerly believed and that population estimates based on the encounter rate in Hill *et al.* (2001) probably underestimate the population size; the population might number at least 10,000 individuals. In addition, we recorded Collared Laughingthrush at slightly lower than the minimum recorded elevation, at 1,450 m (Robson 2008).

The high-elevation forests occupied by Collared Laughingthrush are more secure than low- and mid-elevation forest on the Da Lat Plateau, in part because they are mainly distributed in protected areas which may confer some degree of security to the species, at least in the short to medium term. Outside of the two protected areas (Chu Yang Sin and Bi Doup Nui Ba National Parks) there is relatively little broadleaved evergreen forest above 1,500 m, but because the overall area of habitat within this species range is low, even these areas are of high significance in a conservation context. In Da Nhim Watershed Protection Forest clearance of high-elevation broadleaved evergreen forest, primarily for coffee cultivation, is widespread. This cash crop is growing in popularity with farmers, although much of the coffee produced is *robusta*, a relatively low-value crop widely used for the production of instant coffee; thus a relatively large area of coffee cultivation is needed in order for farmers to turn a good profit. In 2011 Nescafe announced plans to build a large instant coffee factory in nearby Dong Nai province, which is likely to increase the attractiveness of coffee as a cash crop on the Da Lat Plateau.

Although habitat loss within its elevational range is less severe than for Grey-crowned Crocias, and despite our belief that it is more abundant than previously thought, Collared Laughingthrush must have a relatively small global population, limited as it is to broadleaved evergreen forest on the Da Lat Plateau. We recommend it be retained as Endangered under criterion B1a+b (i,ii,iii,iv,v).

Grey-crowned Crocias

Our records of Grey-crowned Crocias slightly expand its known range to the south, to the southern limit of the Da Lat Plateau, and bring the number of sites where it has been recorded to seven. Our data indicate that it is uncommon and localised between 900 and 1,200 m and rare above those elevations. Its occurrence in forest at the higher end of this elevational range may be dependent on the persistence of contiguous forest lower down. The sites at which we found the species contain small areas of forest at a suitable elevation, and therefore do not significantly increase the global population estimate. We concur with BirdLife International (2011) that the population of this species is likely to be between 2,500 and 10,000 individuals. Don Duong Forest Company, where we found seven pairs along a 25 km transect in logged broadleaved evergreen forest (Plate 6) probably supports one of the largest populations of the species. We have not been able to confirm its occurrence in Bi Doup Nui Ba National Park, where it must be rare and highly localised at best because although there is much

apparently suitable habitat it is almost entirely at the higher end of the species's altitudinal range. We suggest that records from this location be treated as provisional until they are confirmed by an independent survey.

Throughout its range most of the forest at elevations suitable for Grey-crowned Crocias has already been converted to agriculture or burned and replaced by coniferous forest (Plate 4). This process is ongoing. At the location where we found the species in Da Nhim Watershed Protection Forest, forest was being cleared for a hydropower dam and coffee cultivation (Plates 1 and 3). Throughout the Da Lat Plateau it is likely that forest conversion activities will increase in line with ongoing road construction as new areas are opened up to human colonisation. Because roads are typically built at lower elevations, associated forest clearance inherently affects lower- and mid-elevation forest before it impacts higher-elevation forest. People have already settled alongside a road that was built through Chu Yang Sin National Park in 2010; this road connects to route 722 along which we found Grey-crowned Crocias in Da Nhim Watershed Protection Forest (Plates 2 and 5).

Suitable habitat for Grey-crowned Crocias is highly fragmented, although its ability to tolerate and even possibly prefer secondary habitats means that, with appropriate land management (which is a long way off in Vietnam), it could potentially recolonise much of its former range. Although it has recently been found in Kon Tum province (Anon. 2012), its distribution there and in intervening forest is extremely poorly known, and it is likely that, overall, it has a very small global distribution within which all suitable forest is rapidly declining in extent and quality, both inside and outside protected areas. Our survey does not indicate a lower level of threat than was previously assumed, and we recommend that Grey-crowned Crocias be retained as Endangered under criteria B1a+b (i,ii,iii,iv,v). It should be noted that although it has the same threat category as Collared Laughingthrush, it is perhaps inherently more vulnerable to extinction owing to its elevational preferences.

ACKNOWLEDGEMENTS

We thank the Trust Fund for Forests for financially supporting this survey and the management boards of the special-use forests where we conducted fieldwork for their cooperation. Le Trong Trai of BirdLife *in Indochina* collected invaluable data for this publication. Pham Xuan Nguyen and other staff from Bi Doup Nui Ba National Park were invaluable in arranging logistics and were good company in the field, and Nguyen Cong Mao our driver took us to places we would otherwise have not been able to reach. Craig Robson and an anonymous referee provided comments on a draft of this manuscript.

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- Simon P. MAHOOD**, Wildlife Conservation Society Cambodia Programme, House 21, Street 21, Sangkat Tonle Bassac, Phnom Penh, Cambodia. Email: simonmahood@gmail.com
- Jonathan C. EAMES OBE**, BirdLife International Cambodia Programme, #9, Street 29 Tonle Basac, Chamkarmon, P.O. Box 2686, Phnom Penh, Cambodia. Email: eames@birdlife.org.vn